

RAW SEQUENCE LISTING  
PATENT APPLICATION US/08/711,961DATE: 12/12/96  
TIME: 11:27:31

INPUT SET: S14333.raw

This Raw Listing contains the General  
Information Section and up to the first 5 pages.

## SEQUENCE LISTING

1  
2  
3 (1) General Information:  
4 (i) APPLICANT: Arthur A. Branstrom  
5 Donata R. Sizemore  
6 Jerald C. Sadoff  
7  
8 (ii) TITLE OF INVENTION: Bacterial Delivery System  
9  
10 (iii) NUMBER OF SEQUENCES: 8  
11  
12 (iv) CORRESPONDENCE ADDRESS:  
13 (A) ADDRESSEE: John Moran  
14 (B) STREET: USA MPMC - MCMR-JA  
15 (C) CITY: FORT DETRICK, FREDERICK  
16 (D) STATE: MARYLAND  
17 (E) COUNTRY: USA  
18 (F) ZIP: 21702-5012  
19  
20 (v) COMPUTER READABLE FORM:  
21 (A) MEDIUM TYPE: Floppy disk  
22 (B) COMPUTER: Apple Macintosh  
23 (C) OPERATING SYSTEM: Macintosh 7.5  
24 (D) SOFTWARE: Microsoft Word  
25  
26 (vi) CURRENT APPLICATION DATA:  
27 (A) APPLICATION NUMBER:  
28 (B) FILING DATE:  
29 (C) CLASSIFICATION:  
30  
31 (vii) PRIOR APPLICATION DATA:  
32 (A) APPLICATION NUMBER:  
33 (B) FILING DATE:  
34  
35 (viii) ATTORNEY/AGENT INFORMATION:  
36 (A) NAME: Moran, John  
37 (B) REGISTRATION NUMBER: 26,313  
38 (C) REFERENCE/DOCKET NUMBER:  
39  
40 (ix) TELECOMMUNICATION INFORMATION  
41 (A) TELEPHONE: (301) 619-2065  
42 (B) TELEFAX: (301) 619-7714  
43  
44 (2) INFORMATION FOR SEQ ID NO:1:  
45  
46 (i) SEQUENCE CHARACTERISTICS:

RAW SEQUENCE LISTING  
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47 (A) LENGTH: 1674 bas pairs  
48 (B) TYPE: Nucleic acid  
49 (C) STRANDEDNESS: Double  
50 (D) TOPOLOGY: Linear

51

52

53 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

54	TCCATAATCA	GGATCAATAA	AACTGCTGCA	GAAATGATTT	40
55	CATTCATAAC	TCAAATTCCC	TGATAATTGC	CGCGGACTTT	80
56	CTGCGTGCTA	ACAAAGCAGG	ATAAGTCGCA	TTACTCATGG	120
57	CTTCGCTATC	ATTGATTAAT	TTCAC TTGCG	ACTTTGGCTG	160
58	CTTTTTGTAT	GGTGAAAGAT	GTGCCAAGAG	GAGACCGGCA	200
59	CATTTATACA	GCACACATCT	TTGCAGGAAA	AAAACGCTTA	240
60	TGAAAAATGT	TGGTTTTATC	GGCTGGCGCG	GTATGGTCCG	280
61	CTCCGTTCTC	ATGCAACGCA	TGGTTGAAGA	GCGCGACTTC	320
62	GACGCCATTC	GCCCTGTCTT	CTTTTCTACT	TCTCAGCTTG	360
63	GCCAGGCTGC	GCCGTCTTTT	GGCGGAACCA	CTGGCACACT	400
64	TCAGGATGCC	TTTGATCTGG	AGGCGCTAAA	GGCCCTCGAT	440
65	ATCATTGTGA	CCTGTCAGGG	CGGCGATTAT	ACCAACGAAA	480
66	TCTATCCAAA	GCTTCGTGAA	AGCGGATGGC	AAGGTTACTG	520
67	GATTGACGCA	GCATCGTCTC	TGCGCATGAA	AGATGACGCC	560
68	ATCATCATTC	TTGACCCCGT	CAATCAGGAC	GTCAATTACCG	600
69	ACGGATTAAA	TAATGGCATC	AGGACTTTTG	TTGGCGGTAA	640
70	CTGTACCGTA	AGCCTGATGT	TGATGTCGTT	GGGTGGTTTA	680
71	TTCGCCAATG	ATCTTGTTGA	TTGGGTGTCC	GTTGCAACCT	720
72	ACCAGGCCGC	TTCCGGCGGT	GGTGCGCGAC	ATATGCGTGA	760
73	GTTATTAACC	CAGATGGGCC	ATCTGTATGG	CCATGTGGCA	800
74	GATGAACTCG	CGACCCCGTC	CTCTGCTATT	CTCGATATCG	840
75	AACGCAAAGT	CACAACCTTA	ACCCGTAGCG	GTGAGCTGCC	880
76	GGTGGATAAC	TTTGGCGTGC	CGCTGGCGGG	TAGCCTGATT	920
77	CCGTGGATCG	ACAAACAGCT	CGATAACGGT	CAGAGCCGCG	960
78	AAGAGTGGAA	AGGGCAGGCG	GAAACCAACA	AGATCCTCAA	1000
79	CACATCTTCC	GTAATTCCGG	TAGATGGTTT	ATGTGTGCGT	1040
80	GTCGGGGCAT	TGCGCTGCCA	CAGCCAGGCA	TTCATATTA	1080
81	AATTGAAAAA	AGATGTGTCT	ATTCCGACCG	TGGAAGAACT	1120
82	GCTGGCTGCG	CACAATCCGT	GGGCGAAAAGT	CGTTCCGAAC	1160
83	GATCGGGAAA	TCACTATGCG	TGAGCTAACC	CCAGCTGCCG	1200
84	TTACCGGCAC	GCTGACCACG	CCGGTAGGCC	GCCTGCGTAA	1240
85	GCTGAATATG	GGACCAGAGT	TCCTGTCAGC	CTTTACCGTG	1280
86	GGCGACCAGC	TGCTGTGGGG	GGCCGCGGAG	CCGCTGCGTC	1320
87	GGATGCTTCG	TCAACTGGCG	TAATCTTTAT	TCATTAAATC	1360
88	TGGGGCGCGA	TGCCGCCCCCT	GTTAGTGCGT	AATACAGGAG	1400
89	TAAGCGCAGA	TGTTTCATGA	TTTACCGGGA	GTAAATAGA	1440
90	GCATTGGCTA	TTCTTTAAGG	GTGGCTGAAT	ACATGAGTAT	1480
91	TCACAGCCTT	ACCTGAAGTG	AGGACGACGC	AGAGAGGATG	1520
92	CACAGAGTGC	TGCGCCGTTC	AGGTCAAAAA	AATGTCACAA	1560
93	CCAGAAGTCA	AAAATCCAAT	TGGATGGGGT	GACACAATAA	1600
94	AACAGGAAGA	CAAGCATGTC	CGATCGTATC	GATAGAGACG	1640
95	TGATTAACGC	GCTAATTGCA	GGCCATTTTG	CGGA	1674

96

97 (2) INFORMATION FOR SEQ ID NO:2:

98

99 (i) SEQUENCE CHARACTERISTICS:

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100 (A) LENGTH: 1121 base pairs  
101 (B) TYPE: Nucleic acid  
102 (C) STRANDEDNESS: Double  
103 (D) TOPOLOGY: Linear  
104 (ii) MOLECULE TYPE: Other nucleic acid  
105 (A) DESCRIPTION: The E. coli asd gene coding for b-aspartic semialdehyde dehydrogen  
106  
107 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:  
108

109	TCCATAATCA	GGATCAATAA	AACTGCTGCA	GAAATGATTT	40
110	CATTCATAAC	TCAAATTCCC	TGATAATTGC	CGCGGACTTT	80
111	CTGCGTGCTA	ACAAAGCAGG	ATAAGTCGCA	TTACTCATGG	120
112	CTTCGCTATC	ATTGATTAAAT	TTCACCTGCG	ACTTTGGCTG	160
113	CTTTTTGTAT	GGTGAAAGAT	GTGCCAAGAG	GAGACCGGCA	200
114	CATTTATACA	GCACACATCT	TTGCAGGAAA	AAAACGCTTA	240
115	TGAAAAATGT	TGGTTTTATC	GGCTGGCGCG	GTATGGTCGG	280
116	CTCCGTTCTC	ATGCAACGCA	TGGTTGAAGA	GCGCGACTTC	320
117	GACGCCATTG	GCCCTGTCTT	CTTTTCTACT	TCTCAGCTTG	360
118	GCCAGGCTGC	GCCGTCTTTT	GGCGGAACCA	CTGGCACACT	400
119	TCAGGATGCC	TTTGATCTGG	AGGCGCTAAA	GGCCCTCGGA	440
120	TCCTCAACAC	ATCTTCCGTA	ATTCCGGTAG	ATGGTTTATG	480
121	TGTGCGTGTC	GGGGCATTGC	GCTGCCACAG	CCAGGCATTC	520
122	ACTATTAAAT	TGAAAAAAGA	TGTGTCTATT	CCGACCGTGG	560
123	AAGAACTGCT	GGCTGCGCAC	AATCCGTGGG	CGAAAGTCGT	600
124	TCCGAACGAT	CGGGAAATCA	CTATGCGTGA	GCTAACCCCA	640
125	GCTGCCGTTA	CCGGCACGCT	GACCACGCCG	GTAGGCCGCC	680
126	TGCGTAAGCT	GAATATGGGA	CCAGAGTTCC	TGTCAGCCTT	720
127	TACCGTGGGC	GACCAGCTGC	TGTGGGGGGC	CGCGGAGCCG	760
128	CTGCGTCGGA	TGCTTCGTCA	ACTGGCGTAA	TCTTTATTCA	800
129	TTAAATCTGG	GGCGCGATGC	CGCCCCTGTT	AGTGCGTAAT	840
130	ACAGGAGTAA	GCGCAGATGT	TTCATGATTT	ACCGGGAGTT	880
131	AAATAGAGCA	TTGGCTATTC	TTTAAGGGTG	GCTGAAATACA	920
132	TGAGTATTCA	CAGCCTTACC	TGAAGTGAGG	ACGACGCAGA	960
133	GAGGATGCAC	AGAGTGCTGC	GCCGTTTCAGG	TCAAAAAAAT	1000
134	GTCACAACCA	GAAGTCAAAA	ATCCAATTGG	ATGGGGTGAC	1040
135	ACAATAAAAC	AGGAAGACAA	GCATGTCCGA	TCGTATCGAT	1080
136	AGAGACGTGA	TTAACGCGCT	AATTGCAGGC	CATTTTGCGG	1120
137	A				1121

138  
139 (2) INFORMATION FOR SEQ ID NO:3:  
140

141 (i) SEQUENCE CHARACTERISTICS:  
142 (A) LENGTH: 22 base pairs  
143 (B) TYPE: Nucleic acid  
144 (C) STRANDEDNESS: Double  
145 (D) TOPOLOGY: Linear  
146

147 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:  
148

149 AGATCTCCCT GATAATTGCC GC 22  
150  
151  
152

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153 (2) INFORMATION FOR SEQ ID NO:4:

154

155 (i) SEQUENCE CHARACTERISTICS:

156 (A) LENGTH: 26 base pairs

157 (B) TYPE: Nucleic acid

158 (C) STRANDEDNESS: Double

159 (D) TOPOLOGY: Linear

160

161

162 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

163

164 AGATCTCGCT TACTCCTGTA TTACGC 26

165

166

167 (2) INFORMATION FOR SEQ ID NO:5:

168

169 (i) SEQUENCE CHARACTERISTICS:

170 (A) LENGTH: 20 base pairs

171 (B) TYPE: Nucleic acid

172 (C) STRANDEDNESS: Double

173 (D) TOPOLOGY: Linear

174

175

176 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:

177

178 CGAGGGCCTT TAGCGCCTCC 20

179

180

181 (2) INFORMATION FOR SEQ ID NO:6:

182

183 (i) SEQUENCE CHARACTERISTICS:

184 (A) LENGTH: 20 base pairs

185 (B) TYPE: Nucleic acid

186 (C) STRANDEDNESS: Double

187 (D) TOPOLOGY: Linear

188

189

190

191 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:

192

193 GATCCTCAAC ACATCTTCCG 20

194

195

196 (2) INFORMATION FOR SEQ ID NO:7:

197

198 (i) SEQUENCE CHARACTERISTICS:

199 (A) LENGTH: 22 base pairs

200 (B) TYPE: Nucleic acid

201 (C) STRANDEDNESS: Double

202 (D) TOPOLOGY: Linear

203

204

205 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:

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206  
207 GAGCTCCCCT GATAATTGCC GC 22  
208  
209  
210 (2) INFORMATION FOR SEQ ID NO:8:  
211  
212 (i) SEQUENCE CHARACTERISTICS:  
213 (A) LENGTH: 26 base pairs  
214 (B) TYPE: Nucleic acid  
215 (C) STRANDEDNESS: Double  
216 (D) TOPOLOGY: Linear  
217  
218  
219 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:  
220  
221 GTCGACCGCT TACTCCTGTA TTACGC 26  
222  
223  
224

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**SEQUENCE VERIFICATION REPORT**

DATE: 12/12/96

PATENT APPLICATION **US/08/711,961**

TIME: 11:27:46

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Original Text